



Traffic Operations

AUGUST 2022

Project Title:  
Moving Towards Roundabouts in  
California

Task Number: 3973

Start Date: February 1, 2023

Completion Date: May 1, 2024

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## Moving Towards Roundabouts in California

Conduct public opinion surveys in California to determine the reason for the resistance to roundabout development and develop messaging to improve acceptance.

### WHAT IS THE NEED?

While roundabout have been around since the late 1700's, modern roundabout design wasn't standardized till 1966 in the United Kingdom. There are three main design features that set modern roundabout apart from their predecessors: 1) vehicles in the circle have the right-of-way; 2) they are smaller (70 to 160 feet in diameter versus 300 feet or more for traffic circles and similar designs), and; 3) they have a splitter "island" to reduce speed just before entry. These are know as 'traffic calming' applications that are intended to cause drivers to slow down and pay more attention.

Because of these features, modern roundabout intersections have proven to be significantly safer than signalized intersections and because they don't require most vehicles to stop they improve mobility in most applications. California in general and the Central Valley in particular has been slow to adopt roundabout intersections. In several cases, public sentiment has affected the decision-making process and resulted in signalized intersections being chosen over roundabout designs.

### WHAT ARE WE DOING?

The project team will review existing literature and history of public perceptions and acceptance of different types of roundabouts with different properties, e.g. at single and multi-lane, rural and urban, small and large, etc. Based on results of the literature review, the team will design and conduct a plan to collect public sentiment about different types of roundabouts with different properties. The data collection plan will include a statewide component as well as a local component.



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Surveys will be used to assess public sentiment regarding roundabouts across California, in general, and locally in the Central Valley. From the survey results, the team will develop messaging strategies, including message content and framing, that may be effective in influencing public sentiment towards roundabout development in their community.

Identify methods to improve the public sentiment towards roundabouts, given their cost, efficiency, and safety advantages.

Two specific objectives are:

1. Assessing the public sentiment across the state of California, in general, and specifically in the Central Valley, in particular, towards roundabouts, and the different types of roundabouts; and
2. Identifying recommendations for messaging strategies, including message content and framing, that may be effective in influencing and improving public sentiment towards roundabouts.

## WHAT IS OUR GOAL?

The immediate objectives are to 1) assess public sentiment towards roundabout intersections across the state of California, in general, and specifically in the Central Valley, and 2) develop recommendations for messaging strategies, including message content and framing, that may be effective in influencing and improving public sentiment towards roundabouts.

The longer-term goal is to accelerate the adoption of roundabouts in California communities to improve mobility and safety by reducing fatalities and severe injury accidents

## WHAT IS THE BENEFIT?

Study after study in the U.S., Europe and Australia show that roundabouts improve safety. They do this by reducing vehicle speed; reducing

the number of conflict points between vehicles; and channeling everyone to move in the same direction. Even in cases where the number of collisions doesn't go down significantly, the severity of the crashes goes down resulting in far fewer fatalities and severe injuries. Federal Highway Administration literature shows that roundabouts reduce fatal and injury crashes anywhere from 78% to 82%.

When operating within their capacity, roundabouts typically have lower overall delay than signalized and all-way stop-controlled intersections. The delay reduction is often most significant during non-peak traffic periods.

Because vehicles are not required to stop like they do at signalized or four-way stop intersections, roundabouts, when operating within their capacity, typically improve traffic flow by reducing overall delay. Reducing the number of vehicles that stop also has environmental benefits by reducing fuel consumption and emissions. And unlike signalized intersections, roundabouts do not have a complex system of lights, controllers, and supporting infrastructure so maintenance costs (per intersection) for municipalities will go down as more roundabouts and fewer signalized intersections are installed.

## WHAT IS THE PROGRESS TO DATE?

This project is anticipated to begin on February 1, 2023.